

## CLAIMS

1. A G protein-coupled receptor protein selected from the group consisting of:

5 (a) a protein having an amino acid sequence selected from the group consisting of SEQ ID NO: 4, 5, 6, 28, 29, 30, and 31;

*But B17*  
(b) a protein of (a), wherein one or more amino acids are modified by deletion, addition, insertion, and/or substitution by another amino acid residue; and

10 (c) a protein encoded by DNA that hybridizes with DNA having a nucleotide sequence selected from the group consisting of SEQ ID NO: 1, 2, 3, 24, 25, 26, and 27.

2. A fusion protein comprising the protein of claim 1 and another peptide or polypeptide.

*But B17*  
15 3. A peptide comprising a part of the protein of claim 1.

*Handwritten mark*  
4. A DNA encoding the protein or peptide of any of claims 1 to 3.

5. A vector comprising the DNA of claim 4 inserted therein.

20 6. A transformant carrying the DNA of claim 4 in an expressible manner.

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7. A method of producing the protein or peptide of any of claims 1 to 3, comprising the steps of: cultivating the transformant of claim 6, and recovering the protein or peptide expressed therein.

25 8. A method of screening for a compound that is capable of binding to the protein of claim 1, comprising the steps of:

(a) exposing a test sample to the protein or peptide of any of claims 1 to 3, and

(b) selecting the compound that binds to the protein or peptide of any of claims 1 to 3.

30 9. A method of screening for a ligand and/or agonist that is capable of binding to the protein of claim 1, comprising the steps of:

(a) exposing a test sample to a cell expressing the protein or peptide of any of claims 1 to 3 on its surface,

35 (b) measuring a biochemical change in said cell, and

(c) selecting the compound that induces said biochemical change

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in said cell.

10. An antibody that binds to the protein of claim 1.

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11. A method of detecting or measuring the protein or peptide of any of claims 1 to 3, comprising the steps of: exposing the antibody of claim 10 to a sample which is assumed to comprise said protein or peptide, and detecting or measuring the generation of an immune complex between said antibody and said protein or peptide.

*2-13*  
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12. A DNA of a length of 15 nucleotides or longer that hybridizes with a DNA having a nucleotide sequence selected from the group consisting of SEQ ID NO: 1, 2, 3, 24, 25, 26, 27, and their complementary strands.